PHILIPS

Avalon Fetal Monitor
Quick Guide
Avalon FM20 / FM30 Rev. D.0 onwards

Confirm fetal life by independent means before you start fetal monitoring. Continue to confirm that the fetus is the signal source for the fetal heart rate (FHR) during monitoring.

Watch the Training DVD!

Touchscreen Operation with Menus

You control all monitor functions (except switching on) by touching elements directly on the touchscreen display.

Main Screen – closes all open menus/windows and returns to main screen.

Main Setup – gives access to all functions via the Main Setup menu.

SmartKeys

SmartKeys at the bottom of the screen provide fast access to functions such as starting/stopping the recorder, or resetting the Toco baseline. Use the scrolling key to access more SmartKeys.

Toco Baseline	Start/Stop	Set Marker	Paper Advance

Getting Started

1 After switching the monitor on, the green power-on LED lights and the monitor display comes on.

2 Connect sensors or transducers as shown. Push connectors firmly all the way into sockets.

SpO₂ (model dependent) NBP Any fetal sensor in any socket

3 Apply transducers to the patient.

4 Measurements appear on the display automatically.

Signal Quality Indicators for FHR

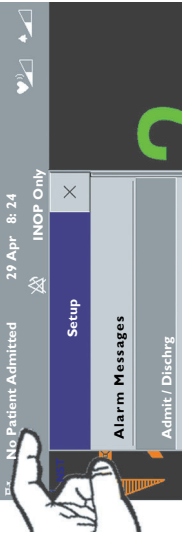Good/full   Acceptable/medium   Poor/no signal

Check signal quality indicators are full during monitoring, and reposition transducers as necessary.

Admitting a Patient

If you are using an OB TraceVue obstetrical information and surveillance system, you should admit/discharge your patient on that system. Otherwise admit her via the Patient Demographics window on the monitor.

To access the Patient Demographics window:

1 Touch the gray information line at the top of the screen then select Admit/Dischrg from the menu that opens:

2 Touch the Admit Patient pop-up key.

3 Enter Last Name, using the on-screen keyboard, and press enter.

4 Repeat for First Name and MRN, then select Confirm.

Discharging a Patient

After you have finished monitoring a patient, discharge her from the monitor. With the Patient Demographics window open:

1 Touch the Discharge Patient pop-up key.

2 Select Confirm to discharge the patient.

Loading Paper

1 If the recorder is on, stop it (see "Starting/Stopping the Recorder" below).

2 Press the paper drawer release and pull the drawer forwards until it stops.

3 With the bottom side of the paper pack down ("STOP" appears on the final page), unfold the top page of the pack, and position the uterine activity scale on the right.

4 Slide the pack into the tray.

5 Push the paper drawer back until it "clicks" closed.

Starting/Stopping the Recorder

Either   Touch the Start/Stop SmartKey

Or   1 Touch the recorder status icon. The Fetal Recorder menu opens.

2 Select Start/Stop.

Recorder Status Icon

The four possible states of the recorder status icon (just above the Main Screen key) are:

Recorder On   Recorder Off   User-solvable problem (paper out, wrong paper scale set)   Recorder defective (call service)

Touch the icon to enter the Fetal Recorder Menu.

Safeguarding Traces when the Paper Runs Out

If the paper has run out, and you load new paper, all the trace data for the period when the paper was out is not lost, but is stored in memory and printed out at high speed automatically as soon as the recorder restarts. (This default behavior can be disabled by setting Bridge Paperout to Off in Config Mode.)

Marking an Event on the Trace Paper

• Either select the Set Marker SmartKey

• Or press the button on the remote event marker.

Entering Notes

1 Press the Enter Notes SmartKey . Enter Note menu opens.

2 Pick a note (scroll if needed).

3 Select Confirm from the pop-up dialog box. The note appears in the display status line, and on the trace if the fetal recorder is on.

Tearing Off the Paper

1 Touch to stop the recorder.

2 Select the Paper Advance SmartKey to advance paper to the next perforation. Never pull paper by hand.

3 Tear off paper along the perforation.

Changing the Fetal Heart Sound Volume

1 Touch the symbol.

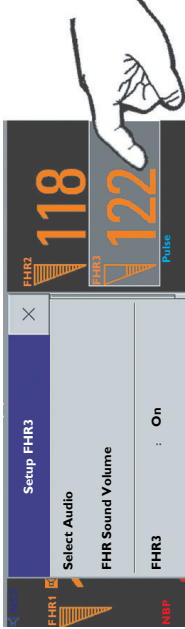2 Pick the required volume from the pop-up volume scale.

Selecting Fetal Heart Sound

You can listen to the fetal heart sound from one ultrasound transducer at a time. You see the audio source symbol next to the FHR numeric label for the channel you are listening to: FHR2

1 Enter the Setup FHR menu for the channel you want to hear.

2 Press Select Audio. It may take a few seconds for the audio source symbol to appear.

Identifying Transducers

Touch a FHR numeric on the screen...

...and the bright, blue Finder LED lights up on the corresponding transducer monitoring that channel.

Finder LED on

Cross-Channel Verification (CCV)

CCV indicates when monitored heart rates (fetal or maternal) coincide, by displaying the symbol on the screen, and on the trace recording.

FHR2   FHR1 / FHR2   FHR1 / FHR2

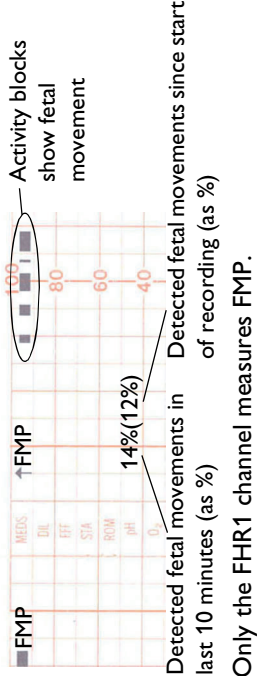Check the trace and reposition one of the transducers if necessary using sound.

Separating Traces

To help you interpret traces with similar baselines:

1 Touch the recorder status icon.

2 Scroll down open menu and select Trace Separation to toggle between On or Off.

FHR2 trace is offset by +20 bpm; FHR3 trace is offset by −20 bpm. The display shows the real heart rate values.

M2703-9041A

Fetal Movement Profile (FMP)

Activity blocks show fetal movement

Detected fetal movements in last 10 minutes (as %)

Detected fetal movements since start of recording (as %)

Only the FHR1 channel measures FMP.

Resetting the Toco Baseline

Touch the **Toco Baseline** SmartKey to reset the Toco baseline to 20 on the display and trace.

Changing the Toco Sensitivity

If the Toco trace exceeds the paper scale, you can reduce the Toco sensitivity to 50% so that the trace stays within the scale (default = 100%):

1 Touch the **Toco** numeric to enter the **Setup Toco** menu.

2 Touch **Toco Gain** to toggle between **100%** and **50%**.

Zero IUP (FM30 only)

1 Enter the **Setup IUP** menu.

2 Touch **Zero IUP** (resets display and trace to 0).

While zeroing, the transducer should be level with the maternal xiphoid (lower end of the sternum).

Selecting the IUP Scale (FM30 only)

You can select between mmHg (default) and kPa for the IUP scale.

1 Enter the **Setup IUP** menu.

2 Touch **IUP Scale** to toggle between **mmHg** and **kPa.**

Non-Stress Test Timer

To set the NST Timer run time:

1 Touch the gray information line at the top of the screen then select **NST Timer** from the menu.

2 Select **Run Time** and pick desired time from the pop-up list.

Changing the Alarm Volume

This **alarm volume indicator** at the top right of the monitor screen gives you an indication of the current alarm volume, for any fetal or maternal alarm, or INOP that is currently configured on. To change the volume:

1 Touch **alarm volume indicator**.

2 Pick the required volume from the pop-up volume scale.

Changing Alarm Limits (Alarm Mode 'All')

For the measurement for which you want to change the alarm limit:

1 Touch the numeric to open the Setup Menu.

2 Touch the limit you want to change, and pick a new limit from the pop-up list.

Responding to Alarms

There are three potential levels of alarms that the monitor will respond to as outlined below:

Yellow Alarms: message in yellow alarms field, medium priority audible alarm signal.

Examples: **FHR1 UNPLUGGED**   **PAPER END**

Technical (INOP) Alarms: message in blue INOP field, INOP tone.

Examples: ****FHR1 94   110**   ****HR HIGH**

Red Alarms: red alarm messages on screen, high priority audible alarm signal.

Examples: *****EXTREME TACHY**   *****BRADY 30 < 50**

Touch the **Silence** key to acknowledge all active alarms by switching off audible alarm indicators.

Select the **Pause Alarms** key if you want to temporarily prevent alarms from sounding (pause duration is configurable to 1, 2 or 3 minutes, or infinite).

If the pause duration is configured to infinite, this key is labelled **Alarms Off**.

The audible alarm indicators configured for your monitor depend on which alarm standard applies in your hospital.

Noninvasive Blood Pressure (NBP): Starting and Stopping Measurements

You can start and stop NBP measurements via two routes:

- *Either* touch the **NBP** numeric **120/80** to enter the **Setup NBP** menu, then pick the appropriate setting
- *Or* touch the appropriate SmartKey

Action	Setup Menu	SmartKey
Start/stop manual measurement		
Start auto series	**Start/Stop**	
Stop current auto measurement within series		
Stop auto/manual AND series measurements	**Stop All**	

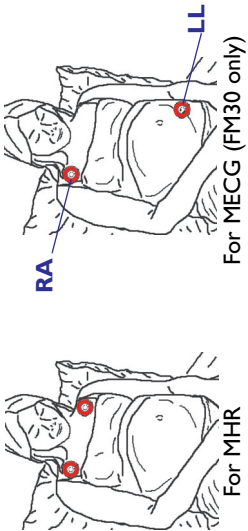### NBP: Enabling Automatic Mode and Setting Repetition Time

In the **Setup NBP** menu:

1 Select **Auto/Man** (toggle as necessary)

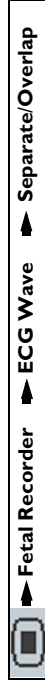2 Select **Repetition Time** to set the interval between automatic NBP measurements.

Priority for Maternal Heart Rate (MHR) / Pulse Rate

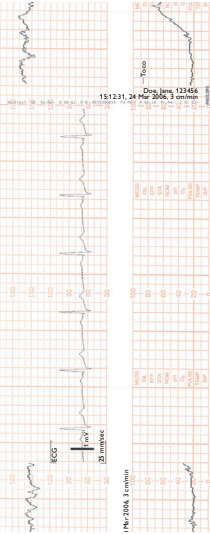| When monitoring...	...source of HR/Pulse is:
MHR via MECG and SpO$_2$	MHR via MECG
SpO$_2$, but **not** MHR via MECG	Pulse from SpO$_2$
Neither MHR via MECG nor SpO$_2$	Averaged pulse from NBP (no alarms available)

MHR / MECG: Applying Electrodes

For MHR

RA

For MECG (FM30 only)

LL

MECG: Printing the Waveform (FM30 only)

▶ Fetal Recorder ▶ ECG Wave ▶ Separate/Overlap

You have two choices to record the MECG waveform onto the trace paper:

Separate: records a six-second MECG strip in fast printout mode. This is in real-time, so temporarily interrupts fetal trace recording while MECG strip prints.

Overlap: records a delayed six-second MECG snapshot for documentation on the fetal trace, without interrupting the fetal trace.

Changing from US to DECG Monitoring (FM30 only)

Disconnect the US transducer first, then connect DECG accessories, following instructions accompanying each accessory.

Turning Artifact Suppression On/Off (FM30 only)

Artifact Suppression is the new term for Arrhythmia Logic.

1 Touch the DFHR numeric to enter the DFHR menu.

2 Select **ArtifactSuppress** to toggle between:

- **On** (artifacts are suppressed)
- **Off** (no artifact suppression, **use this setting if you suspect fetal arrhythmia**)

Obtaining Further Information

Full operating and safety information is contained in your monitor's Instructions for Use (IfU). Familiarize yourself with the IfU content before beginning to monitor patients. This Quick Guide is in addition to, and does not replace, the IfU.